

R E M A R K S

The application has been amended on the presumption that the Petition to Withdraw the Final Rejection submitted November 26, 2002, will be granted.

Accordingly, the claims have been amended to define applicant's invention in a way to obviate the rejection under 35 USC 112, paragraph 2. The drawing has been amended to overcome the objection to it. The lead line for surface 84 has been extended for clarity. Approval of these drawing changes is requested.

Applicant traverses the objection to the substitute specification for introducing new matter. The newly labeled surface 80 is not the same as projection 86. Instead, the newly labeled surface 80 is the portion of the sealing surface which is between projection 86 and area 40. It is clear from the specification as filed that shut-off surface 48 of stopper 45 contacts surface 80 as the stopper moves to the left in Figure 45; see page 4, line 50-page 5, line 2, of the application as filed which indicates shut-off surface 84 extends over depth 85. The substitute specification clarifies the structure initially referred to as surface 84 by breaking surface 84 into two parts, namely surfaces 80 and 84. Page 5, lines 17-24, of the application as filed indicate sealing element 45 seals the surface now referred to as surface 80. Such a clarifying change to the specification does not amount to new matter.

Serial No. 09/672,038

The Examiner's comment that opposing shut-off surfaces 84 and 94 mean that these surfaces oppose each other across chamber 35 is incorrect. Valve surface 84 is opposed by stopper surface 48, while valve body surface 94 is opposed by stopper surface 49. The Examiner has misconstrued the word "opposing" as referring to opposite surfaces across chamber 35.

It is apparent from Figure 2 that the valve body surface now labeled 80 is inclined by angle 83 from axis 51; note the line from axis 51 to surface 80. Surface 84 lies in planes parallel to the planes of surface now labeled 80. Because the planes of surfaces 80 and 84 are parallel to each other, they make the same angle with respect to longitudinal axis 51.

With regard to the comment in the paragraph bridging pages 2 and 3 of the Office Action, applicant has amended claim 6.

Concerning the restriction requirement, applicant does not understand how claims 22-28 and 32-38 can be in a different group from claims 17-21 and 29-31. This lack of understanding occurs because claims 22-28 depend on claim 17, while claims 32-38 depend on claim 29. Since the Examiner has considered claims 22-28 and claims 32-38, he must have also considered claims 17 and 29, upon which claims 22-28 and claims 32-38 respectively depend.

The amendments to claims 22 and 32 obviate the rejections of claims 22-28 and 32-38 under 35 USC 112, paragraph 1. The

Serial No. 09/672,038

amendments to claims 22 and 32 obviate the rejection to all of claims 22-28 and 32-38 because claims 23-28 depend on claim 22, while claims 33-38 depend on claim 32.

Claims 15, 2, 3, 5-8 and 14, as previously presented, were not anticipated by Brown, U.S. Patent 2,542,390, because claim 15, upon which the remaining claims depend, required an outlet area (arranged between the opposing shut-off surfaces and the outlet channel) to have a conically narrowing opening surface. In the Brown patent, the outlet areas downstream of the sealing areas 12 do not have conically narrowing opening surfaces. This requirement has been retained in claim 15 by requiring an outlet area between a third shut-off surface and a first outlet to have a conically narrowing opening surface. Claim 15 also distinguishes over Brown by requiring portions of the third and fourth shut-off surfaces that are respectively in closest proximity to the first and second outlets to narrow conically or as a funnel toward the first and second outlets.

Claims 2, 3, 5-8 and 14 are not anticipated by Brown for the reasons set forth with regard to claim 15, upon which they depend. In addition, claim 5, as previously presented, distinguished over Brown by requiring the shut-off surfaces of the sealing element to form an essentially continuous line in cross-sections extending in the direction of longitudinal movement of the actuator. Claim 5, as amended, retains this feature by requiring the first and second

Serial No. 09/672,038

shut-off surfaces to be connected to each other and arranged so each cross-section of the first and second surfaces, as connected together, forms an essentially continuous arcuate line.

Applicant also notes that the limitation of claim 14, requiring the outlets to oppose each other, is not found in Brown. In this regard, outlets 14 and 15 of Brown are on the same side of a cylindrical housing.

Applicant traverses the rejection of claims 16, 39-42, 47 and 48 as being obvious as a result of DE 195 09 145 and EP 0 907 045. Applicant does not agree that surface 6a of the '145 reference constitutes a step at an annular sealing surface or annular seal of a sealing surface. Surface 6a of the '145 reference is the sealing surface itself. It is not a step in the sealing surface. This is evident from Figure 3 of the '145 patent, which clearly indicates that the periphery of spherical stopper 13 seals against surface 6a, which does not have a step-like projection. The seal is formed because the sphere and surface 6a have the same radius. The following translation of column 3, lines 10-16, of the '145 reference supports the foregoing analysis:

Fig. 3 shows in an enlarged view the ring disc 6 after having applied a compression action by using a sphere 13. The sphere 13 is illustrated by broken line. Its radius r_6 has the same dimension as the radius r_{5b} of the sealing surface of the spherical calotte 5b. The area of the ring disc 6a serving as a sealing surface is marked by the reference number 6a.

The foregoing statements concerning sealing surface 6a are applicable to sealing surface 7a.

Serial No. 09/672,038

Claim 16 now defines the relationship by requiring the third surface to form an annular seal with the first surface and have a step-shaped projection at the annular seal. Based on the foregoing, there is no reason why one of ordinary skill in the art would have combined the German reference with the EP reference to arrive at the combination claim 16 defines.

Claims 39-42, 47 and 48 are allowable for the same reasons advanced for claim 16, upon which they depend.

Applicant notes that claims 2, 3, 5-11, 14-16, 22-28 and 32-48 are under consideration in the Office Action. Claims 2, 3, 5-11, 14-16, 22-28, 32-38, 39-42, 47 and 48 are rejected. There is no rejection against claims 43-46. The "Office Action Summary" on the first page of the Office Action should reflect the foregoing.

In view of the foregoing amendments and remarks, favorable reconsideration and allowance of all pending claims is in order.

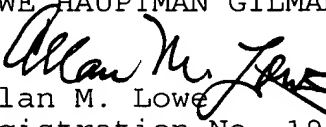
To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including

Serial No. 09/672,038

extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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February 12, 2003

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